

Amendments to the Claims: (material to be inserted is in bold and underline, material to be deleted is in ~~[brackets and strikeout]~~):

1-25 (Canceled)

26. A thermoactive binder composite product for nonstructural building applications, comprising:

a body constructed for use in nonstructural building, and made by choosing a base material including a thermoactive binder component; forming the base material into a mat having at least one surface expanse; providing jet structure for delivering a pressurized hot non-condensable gas toward and into the base material through the surface expanse, the jet structure including a plurality of jets adapted to be disposed in a predetermined distribution over the surface expanse with the plurality of jets having an average opening size and being spaced apart in the predetermined distribution by an average distance substantially greater than the average opening size; injecting, via the provided jet structure, the hot non-condensable gas into the base material, where the pressure of the gas is substantially dissipated in passage through the jets prior to entry into the base material at least during a portion of the step of injecting; and pressing the base material to compress it to a first density.

27. The composite product of claim 26 wherein the jets are positioned in contact with the surface expanse of the base material.

28. The composite product of claim 27 wherein the jets are separated from the surface of the base material by a short distance.

29. The composite product of claim 26 further comprising the step of selecting a base material including filler particles.

30. The composite product of claim 29 further comprising the step of selecting filler particles generally in the form of strands.

31. The composite product of claim 29 further comprising the step of selecting filler particles from the group including sawdust, shredded paper, wood chips, wood shavings, peanut shells, glass fibers, boron fibers, or Kevlar<sup>TM</sup> fibers.

32. The composite product of claim 29 further comprising the step of preheating the thermoplastic portion of the base material prior to combination with the filler particles.

33. The composite product of claim 26, further including the step of forming the base material into a press charge that includes opposing sides, and wherein the providing set including providing jets positioned to deliver gas toward and into the opposing sides of the press charge.

34. A thermoactive binder composite product, comprising:  
a body constructed for use in nonstructural building, and made by supplying a  
base material including a thermoactive binder component; providing a platen press  
with a pair of opposed platens to compress a press charge formed from the base  
material; choosing platens having an insulating inner face for contacting the press  
charge to thereby substantially limit conductive heat transfer between the platens and  
the press charge; injecting a hot dry gas into the press charge; and compressing the  
press charge.

35. The composite product of claim 34 further comprising the step of  
choosing hot air as the hot gas for the step of injecting.

36. The composite product of claim 35 further comprising the step of heating  
the hot air to between 400° and 600°F. prior to the step of injecting.

37. The composite product of claim 34 further comprising the step of  
choosing thermoplastic fluff as the thermoactive binder.

38. A thermoactive binder composite product, comprising:  
a body constructed for use in nonstructural building, and made by selecting a  
gas permeable base material including a thermoactive binder component; forming the  
base material into a press charge having a pair of opposing sides; and infusing a  
substantially dry hot gas into the base material through a first region on one of the  
opposing sides and through a second region on the other of the opposing sides  
simultaneously, with at least a substantial portion of the regions being opposed to each  
other across the press charge in a direction generally normal to the sides, where the  
temperature of the gas is greater than the activation temperature of the thermoactive  
binder component of the base material.

A1  
39. The composite product of claim 38, further including the step of providing  
jet structure for infusing the substantially dry hot gas toward and into the base  
material through the opposing sides, the jet structure including a plurality of jets  
disposed over both opposing sides.

40. The composite product of claim 39, further including the step of forcing  
an amount of gas through the jets sufficient to create a substantial pressure drop across  
the jets prior to entry of the gas into the base material.

A1

41. A thermoplastic binder composite product, comprising:  
a body constructed for use in nonstructural building, and made by selecting a  
gas permeable base material including a thermoplastic binder component, where the  
gas permeability of the base material varies upon activation of the thermoplastic  
binder; injecting a substantially dry hot gas into the base material from a plurality of  
discrete locations, where the temperature of the gas is greater than the activation  
temperature of the thermoplastic binder component of the base material; regulating the  
gas flow among the plurality of discrete locations so that variations in the permeability  
of the base material in the proximity of one or more of the plurality of discrete locations  
does not substantially affect gas flow into the base material from one of the one or more  
discrete locations relative to another of the plurality of discrete locations.

42. The composite product of claim 41, further including the step of forming  
the base material into a press charge that includes opposing sides, and wherein the  
plurality of discrete locations includes locations on both opposing sides of the press  
charge.

43. The composite product of claim 42, further comprising the step of  
compressing the base material into a substantially compact, solid product.

44. The composite product of claim 43, further including the step of choosing  
a base material including thermoplastic material as the thermoactive binder.

45. The composite product of claim 43, further including the step of choosing a base material including thermoset material as the thermoactive binder.

46. The composite product of claim 41, further comprising the step of compressing the base material into a substantially compact, solid product.

47. The composite product of claim 41, further including the step of choosing a substantially dry hot gas for the step of injecting with a temperature of at least 400°F.

48. A thermoactive binder and cellulosic composite product, comprising:  
a body constructed for use in a nonstructural building, and made by selecting a gas permeable base material including a thermoactive binder component and a cellulosic component; injecting a substantially dry hot gas into the base material where the temperature of the gas is greater than 400°F., where the gas consists essentially of air; and limiting the exposure of the base material to gas with a temperature greater than 400°F. in step of injecting to avoid combustion.

49. The composite product of claim 48, further comprising the step of choosing a gas temperature between 400°F. and 600°F.

50. The composite product of claim 48, further comprising the step of selecting a thermoplastic thermoactive binder.

51. The composite product of claim 48, further including the step of spiking the temperature for a predetermined interval when the gas is first injected into the mat.

52. The composite product of claim 48, further including the step of choosing a base material including thermoplastic fluff.

53. The composite product of claim 52, further including the step of forming the base material into a mat prior to the step of injecting and the step of compressing the mat to a first density of not more than fifteen pounds per cubic foot at least during part of the step of injecting so that the mat remains substantially porous.